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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,243	08/06/2003	Hisashi Aruga	9319S-000533	6610

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EXAMINER	
MASINICK, MICHAEL D	

ART UNIT	PAPER NUMBER
2125	

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/635,243	ARUGA, HISASHI	
	Examiner	Art Unit	
	Michael D. Masinick	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-13* is/are rejected.

7)☒ Claim(s) *5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-13 are pending in this application.

Response to Arguments

2. Applicant's arguments filed 2/27/2006 have been fully considered but they are not persuasive. Applicant argues that the Matsuda patent does not show or suggest a "communication line through which data is both transmitted and received". Examiner fails to see how this is not shown in the previously cited section (Column 10, lines 24-38), however will cite numerous examples of this below.

3. Column 13 shows the connection of the "computing unit" to a RS-232-C interface board. This connection is a serial connection which inherently has both sending and receiving functions.

4. Figure 7 shows a drawing of the invention of Matsuda where communication lines are used to receive information from sensors and output information from the controller to the motors and valves to control the process.

5. Figure 8A shows a variety of "communication lines" connecting all of the various pieces of equipment in the Matsuda patent, all of which inherently can receive and send data.

6. It is noted that applicant appears to be reading more information into the term "communication line" than the examiner is. It is important to note that this term is treated as a simple communication line in any form and no aspects of the specification are being read into the claim. It would be inappropriate to restrict the claimed communication line to only a telephone line or other specific communication line, and if applicant is seeking claim coverage for such a system, they are encouraged to enter those aspects into the claims to clarify the claim scope.

7. All rejections are maintained as previously written. Claim 1 is only included in the USC 103 rejection for sake of clarity based on the dependencies of the rejected claims.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-4, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,025,012 to Matsuda et al.

10. Referring to claim 1, Matsuda shows a manufacturing system comprising: a discharger for discharging a liquid material having fluidity onto a substrate (Column 1, lines 10-12); communication means for transmitting and receiving data through a communication line (Column 10, lines 24-38 – "input/output devices"); and monitoring means for monitoring the state of the discharger and for outputting data obtained by the monitoring means through the communication means (Column 2, lines 36-46 – "state detecting means").

11. Referring to claim 2, Matsuda shows wherein the monitoring means determines whether or not an abnormality has occurred based on the monitor data and outputs a warning signal through the communication means when an abnormality has occurred (Column 17, line 57 – Column 18, line 37 detail the occurrences that happen when a temperature change does or does not occur. If the reading of a temperature sensor is over a certain threshold, one action is taken

which is consistent with the plan. If the temperature is under the threshold, other actions are taken to fix the situation which is tantamount to a warning.).

12. Referring to claim 3, Matsuda shows wherein when the monitoring means receives a control command through the communication means, the monitoring means controls operation of the discharger in accordance with the control command (Column 9, line 47 – Column 10, line 4).

13. Referring to claim 4, Matsuda shows wherein the discharger comprises a liquid drop discharge head for discharging the liquid material, and a drive circuit for outputting a drive signal for controlling the discharging carried out by the liquid discharge head (Column 1, lines 46-63) ; and at least one of a drive signal input portion of the liquid drop discharge head and the drive circuit are shielded so as not to be accessible from the outside (Figure 1 shows "head mover 6" attached to a frame which examiner considers to be shielded). The later part of this claim is open to interpretation and does not seem to be related to the technological invention set forth.

14. Referring to claim 9, Matsuda shows wherein the discharger measures an operable state time of the liquid drop discharge head, the operable state time for action discharging the liquid material, maintaining the liquid material in a dischargeable state, and waiting for the discharge operation; and the monitoring means obtains and outputs the measured operable state time ("Nozzle discharge time" – Column 14, lines 26-53).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claims 1, 4, 6-8, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,025,012 to Matsuda et al in view of U.S. Patent No. 6,130,682 to Kohno et al.

17. With respect to what has been shown above, Matsuda shows detection means wherein upon the occurrence of an error, notification or corrective action is taken. Examiner notes that Matsuda shows all elements of claim 1 and 4 as shown above, however claims 8 and 11 are dependant only upon claim 4 and requires a similar 103 rejection as claims 6 and 7.

18. Matsuda does not specifically show that this detection is a discharge failure detection.

19. Kohno shows an ink jet recording apparatus with detection of discharge malfunction (title). Column 2 of Kohno shows the techniques by which the detection of a discharge malfunction is made.

20. It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the discharge malfunction detection means of Kohno as one of the detection means of Matsuda because discharge malfunction can be indicative of a shortage of ink or inferior discharge of ink which would require intervention from a user to remedy (Kohno, column 1, lines 59-65).

21. Referring to claim 7, Kohno shows multiple nozzles ("nozzle array" – column 2, line 22).

22. Referring to claim 8, Kohno shows wherein the discharger outputs a notification signal indicating the generation of a drive signal pulse, and the monitoring means outputs data for counting the cumulative number of dots discharged from the liquid drop discharge head based on

the notification signal (Column 1, line 59 – Column 2, line 8). Examiner notes that the "count" of ink droplets is reset for each intended discharge.

23. Referring to claim 11, Kohno shows a storage container with remaining amount detection means (Columns 2 and 3 detail keeping track of total printed amount related to the ink well and notification when the amount of ink remaining is low enough to avoid malfunction of the ink cartridge).

24. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,025,012 to Matsuda et al in view of U.S. Patent No. 5,896,292 to Hosaka et al.

25. Matsuda does not show wherein the discharger counts the number of manufactured products and outputs the count value.

26. Hosaka shows an automated system for a production and manufacturing facility. In paragraph 91, Hosaka shows "The production performance value is used below as a generic expression of data relating to the production performance of the production line, such as the success rate (number) of manufactured articles, the failure rate (number) of the manufactured articles and the rate of operation of the production line."

27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the count system of Hosaka as a way to count the number of articles manufactured by Matsuda because it allows a user to provide an automated system in which the operating status of a production facility can be identified with ease even when the production facility has developed a problem (paragraph 15 of Hosaka).

28. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,025,012 to Matsuda et al in view of U.S. Patent No. 5554891 to Shimizu et al.

29. Matsuda does not show removal detection means for detecting removal of an predetermined part in the discharger.

30. Removal detection is a well known piece of many security systems for all types of devices. Shimizu shows a security system for an automobile which uses removal detection to prevent theft (Paragraph 36).

31. It would have been obvious to one of ordinary skill at the time the invention was made to use a removal detection technique as set forth in Shimizu to maintain the security of the system of Matsuda because theft of property (or in the case of Matsuda, potentially intellectual property) is generally considered to be negative. Shimizu acts by "inhibiting such reconnection of a broken circuit" which will prevent unauthorized use or access.

Allowable Subject Matter

32. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

33. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D. Masinick whose telephone number is (571) 272-3746. The examiner can normally be reached on Mon-Fri, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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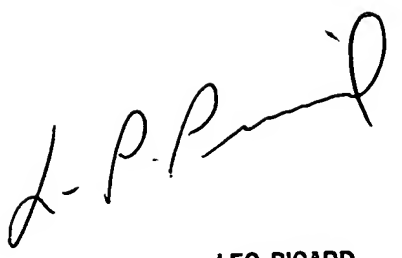

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